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10/820,454	04/07/2004	Jacky L. McIntosh	07324-073001	7280
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FISH & RICHARDSON, PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			EXAMINER SETH, MANAV	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/820,454

Applicant(s)

MCINTOSH ET AL.

Examiner

Manav Seth

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05/27/2005 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>05/08/06, 04/07/04</u> .                                      | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 9-20 and 24-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over DesForges et al., U.S. Patent No. 5,085,587 further in view of Kruger et al, U.S. Patent No. 4,877, 948.

Regarding claim 1, claim 1 recites a scannable form and its contents. DesForges discloses:

(a) an elongate rectangular shape with first and second substantially straight longitudinal edges (col. 7, lines 39-40; figures 3 and 4 – elements 34 and the opposite side);

(b) at least two response columns parallel to the first longitudinal edge (figure 5, columns 45a –45e);

(c) a control mark column (figures 5 and 6 – element 44), parallel to the first longitudinal edge and parallel to the response column but spaced therefrom, the control mark column containing, in a direction parallel to the first longitudinal edge:

(1) a first set of response control marks having a first length (figures 5 and 6 – elements 14 and 14”; col. 7, lines 48-49);

(2) a second set of response control marks having the first length (figures 5 and 6 – elements 14 and 14”; col. 7, lines 50-51);

(3) a start-of-form mark having a second length different from the first length (figures 5 and 6 – elements 12 and 12”; col. 7, lines 52-54); and

(4) an end-of-form mark having a third length different from the first length and the second length (figures 5 and 6 – elements 16 and 16”; col. 7, lines 55-58);

the first set of response control marks being column aligned with the start-of-form mark and before the second set of response control marks, the start-of-form mark being column aligned before the second set of response control marks, and the second set of response control marks being column aligned before the end-of-form mark (figures 5 and 6; col. 7, lines 59-65);

(d) a response row corresponding to each response control mark, each response row being row aligned with the corresponding response control mark perpendicular to the first longitudinal edge, each response row containing at least two response receiving spaces, and each response receiving space being aligned in one of said response columns, the first set of response control marks being associated with response rows that have numeric value response receiving spaces (figures 5 and 6; col. 7, lines 66-68 through col. 8, lines); and

the claim further recites the scannable form which further recites a barcode as its content along with the response control marks in the limitations “ a bar code in at least one of a first location and a second location, the first location being a first pre-determined distance below the end-of-form mark and a second pre-determined distance above a bottom edge of the form, the second location being a third pre-determined distance from at least one response row and a fourth pre-determined distance from one of the first and second longitudinal edges, the bar code being sufficiently spaced away from the response rows to avoid false detection of marks in the response rows”. DesForges do not expressly teach of including an bar-code in the scannable form but however, the use of bar-codes in the scannable forms for various reasons is very well known in the art. As a matter of fact, barcodes

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has been widely used as UPC codes that represent prices, used for identification purposes, etc and Examiner here cites the reference Kruger to teach these well known teachings. Kruger similarly as DesForges provides a form which recites not only the response control marks in columns and rows (col. 1, lines 23-50; col. 2, lines 56-67 – represents the same format from the instant assignee – Scantron; figure 3); but also provides an barcode (figure 3; col. 2, lines 30-55; col. 4, lines 1-25) in a second location which of course is at a predetermined distance from at least one response row and a predetermined distance from one of the first and second longitudinal edges (figure 3), the bar code being sufficiently spaced away from the response rows to avoid false detection of marks in the response rows, where the predetermined distance merely being a design choice. Therefore, it would have been obvious for one of ordinary skill in the art at the time of invention was made to use Kruger's teachings in the invention of DeForges because both references are directed to the same field of endeavor where both references teach a scannable form and Kruger provides a form which has an additional content which being a bar-code, where bar-code is used to provide the identification data (identity) of an individual who uses the form (col. 4, lines 1-8) when scanned. Similarly DeForges's teaches that it's form can be used for testing purposes by an educator and adding an bar-code to the form can be used to identify the test taker which further would provide more versatile ways of interpreting the data which is easily and fastly machine understandable.

Regarding claim 2, Krueger discloses wherein user written marks in the response receiving spaces are scannable by a first device, and the bar code is scannable by a second device (figure 1, element 12 – bar code scanner, element 16 – mark sense scanner; col. 1, lines 33-36).

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Regarding claim 3, Desforges discloses the form further comprising a back side with a plurality of response control marks, response rows parallel to the response control marks, and an end-of-form mark, wherein said first location and second location of the bar code are on the back side of the form (col. 7, lines 20-23 – Desforges discloses the form can be printed on other side of a double-sided form).

Regarding claim 4, DesForges discloses wherein the user written marks in the response receiving spaces are scannable by a optical mark recognition (OMR) scanner (figures 2 and 4; col. 2, lines 60-68).

Regarding claim 9, DesForges discloses wherein each response row associated with the response control marks of the second set of response control marks contains a plurality of response receiving spaces designated to correspond to selectable answer of a multiple choice question (col. 8, lines 30-35; figures 5 and 6; col. 4, lines 1-30; col. 5, lines 18-45; col. 6, lines 1-25).

Regarding claim 10, Desforges discloses wherein the first, second and third lengths are measured in a direction parallel to the first longitudinal edge, and the start-of-form mark is longer than the end-of-form mark, and the end-of-form mark is longer than the response control marks (col. 8, lines 10-15; figures 5 and 6 – elements 12, 14 and 16; col. 3, lines 18-30).

Regarding claim 11, Desforges discloses wherein each numeric value response receiving space corresponds to a different numeric value (col. 8, lines 15-18; col. 4, lines 8-65; col. 7, lines 48-68 through col. 6, lines 1-2).

Regarding claims 12 and 13, Desforges discloses wherein the numeric value for the numeric value block is designated to correspond to a sum of the numeric values of all selected response receiving spaces within the numeric value block and further including a space for designated a form as a key form such that each numeric value block on the key form indicates that associated numeric value blocks on subsequent forms should contain a numeric value and indicates a maximum value for the associated numeric value (col. 8, lines 19-30; col. 4, lines 23-68) and printing the bar code on the other side is simply a design choice without moving away from the purpose of using it.

Regarding claims 14 and 15, DesForges discloses further including a space for designating a mathematical operation to be performed between the numeric value of a numeric value block and the sum of the response receiving spaces where the designated mathematical operation is addition (col. 8, lines 36-42; col. 5, lines 46-68).

Regarding claim 16, DesForges discloses wherein each response row associated with the response control marks of the second set of response control marks contains one response receiving space in a corresponding response column, at least one group of successive response rows being allocated to correspond to selectable responses, and further comprising an end-of-response column parallel to the first longitudinal edge but spaced from both the control mark column and the response column and containing marks are aligned with the last response space associated with each group of response rows (col. 8, lines 45-55).

Regarding claim 17, DesForges discloses a set of mode indicating indicia row aligned with the start-of-form mark and column aligned with at least one of the response columns (col. 8, lines 56-59).

Regarding claim 18, claim 18 has been similarly analyzed and rejected as per claim 1. Further see DesForges (col. 2, lines 60-68; col. 8, lines 60-68 through col. 9, lines 1-32).

Regarding claims 19 and 20, these claims have been similarly analyzed and rejected as per claim 3.

Regarding claim 24, Desforges discloses the scanning apparatus interprets a mark in the numeric value response spaces as a numeric value (col. 4, lines 34-40).

Regarding claim 25, DesForges discloses wherein the scanning apparatus is programmed by a key sheet to interpret the response rows associated with the first set of response control marks as numeric value (col. 4, lines 35-65; col. 9, lines 33-36).

Regarding claims 26 and 27, Desforges discloses wherein the scanning apparatus is programmed to tally responses in the response rows associated with the second set of response control marks, and to mathematically combine the numeric value with the tally results and programmed to mathematically combine the numeric value with the selected responses in the response rows associated with the second set of response control marks (col. 5, lines 18-68 through col. 6, lines 1-35; col. 9, lines 37-46).



Regarding claim 28, claim 28 has been similarly analyzed and rejected as per claim 1 since the form itself is paper with the printed matter on it.

3. Claims 5-8 and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over DesForges et al., U.S. Patent No. 5,085,587 further in view of Kruger et al, U.S. Patent No. 4,877, 948, and further in view of Poor, U.S. Patent No. 5,452,379.

Regarding claim 5, claim 5 recites “the form further comprising at least one optical character recognition (OCR) space designated for a user handwritten character, the optical character recognition space being located in at least one of the first and second locations”. As discussed before, the combined invention of DesForges and Kruger teaches that a form can include both response marks and bar codes and each of them can be used in user specific applications to define something. Now, the claim 5 recites that the form further includes a OCR space which recites an user handwritten character. Both DesForges and Kruger do not expressly teach a form that includes an OCR space which recites an user handwritten character. However, Poor teaches a form which includes an OCR space which recites an user handwritten character (figure 4 – element 34, figure 10 – element 66, figure 12 – elements 72 and 74; col. 8, lines 39-45). Therefore, it would have been obvious for one of ordinary skill in the art at the time of invention was made to include Poor’s teachings in the combined invention of DesForger and Kruger because all references are directed to the same field of endeavor and solve the same problem of providing a form with multiple spaces with different contents and further provide the teachings of scanning or reading contents from such spaces and Poor when combined with DesForges and Kruger would further provide a form user an additional option of providing his/her information on a form in an easier way since simply writing

on a paper is much easier for one of ordinary skill in the art and this would further invite an open ended verbal response in the form, and placing such an OCR space at a predetermined location on a form being a design choice for a form designer.

For the sake of arguments, examiner points to the prior art cited by the applicant (a form used at UC Davis 2000- in the second location recites an OCR space of front side and bar code on back side in second location).

Claim 6 has been similarly analyzed and rejected as per claims 5 and 13 (printed OCR handwritten character on back side being a design choice).

Regarding claim 7, Poor discloses the claims having a plurality of OCR spaces for a user to handwrite at least one of a user name, a user identification, a user social security number, a date, a class section, and an administrator name (col. 8, lines 39-45; figure 12 – elements 72 and 74) and again placing the space at specified location being a design choice. Kruger does teach providing name and barcode in the second location.

Regarding claim 8, as per claim 8 the ICR space is that that contains a machine written character, Kruger in figure 3 provides ICR space which includes machine written characters (element 44) in the second location. Poor also teaches ICR space in figure 12 – element 70 (col. 11, lines 23-25) and again placing the space at specified location being a design choice.

Claims 21-23 have been similarly analyzed and rejected as per claims 5-8.

*Double Patenting*

4. Claims 1-4, 9-20 and 24-28 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-15 of U.S. Patent No. 5,085,587 further in view of Kruger et al, U.S. Patent No. 4,877, 948.

Regarding claim 1, claim 1 recites a scannable form and its contents. DesForges discloses:

- (a) an elongate rectangular shape with first and second substantially straight longitudinal edges (col. 7, lines 39-40);
- (b) at least two response columns parallel to the first longitudinal edge (col. 7, lines 41-42);
- (c) a control mark column, parallel to the first longitudinal edge and parallel to the response column but spaced therefrom, the control mark column containing, in a direction parallel to the first longitudinal edge (col. 7, lines 42-47):
  - (1) a first set of response control marks having a first length (col. 7, lines 48-49);
  - (2) a second set of response control marks having the first length (col. 7, lines 50-51);
  - (3) a start-of-form mark having a second length different from the first length (col. 7, lines 52-54); and
  - (4) an end-of-form mark having a third length different from the first length and the second length (col. 7, lines 55-58);

the first set of response control marks being column aligned with the start-of-form mark and before the second set of response control marks, the start-of-form mark being column aligned before the second set of response control marks, and the second set of response control marks being column aligned before the end-of-form mark (col. 7, lines 59-65);

(d) a response row corresponding to each response control mark, each response row being row aligned with the corresponding response control mark perpendicular to the first longitudinal edge, each response row containing at least two response receiving spaces, and each response receiving space being aligned in one of said response columns, the first set of response control marks being associated with response rows that have numeric value response receiving spaces (col. 7, lines 66-68 through col. 8, lines); and

the claim further recites the scannable form which further recites a barcode as its content along with the response control marks in the limitations “ a bar code in at least one of a first location and a second location, the first location being a first pre-determined distance below the end-of-form mark and a second pre-determined distance above a bottom edge of the form, the second location being a third pre-determined distance from at least one response row and a fourth pre-determined distance from one of the first and second longitudinal edges, the bar code being sufficiently spaced away from the response rows to avoid false detection of marks in the response rows”. DesForges do not expressly teach of including an bar-code in the scannable form but however, the use of bar-codes in the scannable forms for various reasons is very well known in the art. As a matter of fact, barcodes has been widely used as UPC codes that represent prices, used for identification purposes, etc and Examiner here cites the reference Kruger to teach these well known teachings. Kruger similarly as DesForges provides a form which recites not only the response control marks in columns and rows (col. 1, lines 23-50; col. 2, lines 56-67 – represents the same format from the instant assignee – Scantron; figure 3); but also provides an barcode (figure 3; col. 2, lines 30-55; col. 4, lines 1-25) in a second location which of course is at a predetermined distance from at least one response row and a predetermined distance from one of the first and second longitudinal edges (figure 3), the bar code being sufficiently spaced away from the response rows to avoid false detection of marks in the

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response rows, where the predetermined distance merely being a design choice. Therefore, it would have been obvious for one of ordinary skill in the art at the time of invention was made to use Kruger's teachings in the invention of DeForges because both references are directed to the same field of endeavor where both references teach a scannable form and Kruger provides a form which has an additional content which being a bar-code, where bar-code is used to provide the identification data (identity) of an individual who uses the form (col. 4, lines 1-8) when scanned. Similarly DeForges's teaches that it's form can be used for testing purposes by an educator and adding an bar-code to the form can be used to identify the test taker which further would provide more versatile ways of interpreting the data which is easily and fastly machine understandable.

Regarding claim 2, Krueger discloses wherein user written marks in the response receiving spaces are scannable by a first device, and the bar code is scannable by a second device (figure 1, element 12 – bar code scanner, element 16 – mark sense scanner; col. 1, lines 33-36).

Regarding claim 3, Desforges discloses the form further comprising a back side with a plurality of response control marks, response rows parallel to the response control marks, and an end-of-form mark, wherein said first location and second location of the bar code are on the back side of the form (col. 7, lines 20-23 – Desforges discloses the form can be printed on other side of a double-sided form).

Regarding claim 4, DesForges discloses wherein the user written marks in the response receiving spaces are scannable by a optical mark recognition (OMR) scanner (figures 2 and 4; col. 2, lines 60-68). Also Kruger teaches the same as cited in rejection of claim 2.

Regarding claim 9, DesForges discloses wherein each response row associated with the response control marks of the second set of response control marks contains a plurality of response receiving spaces designated to correspond to selectable answer of a multiple choice question (col. 8, lines 30-35).

Regarding claim 10, DesForges discloses wherein the first, second and third lengths are measured in a direction parallel to the first longitudinal edge, and the start-of-form mark is longer than the end-of-form mark, and the end-of-form mark is longer than the response control marks (col. 8, lines 10-15).

Regarding claim 11, DesForges discloses wherein each numeric value response receiving space corresponds to a different numeric value (col. 8, lines 15-18).

Regarding claims 12 and 13, DesForges discloses wherein the numeric value for the numeric value block is designated to correspond to a sum of the numeric values of all selected response receiving spaces within the numeric value block and further including a space for designated a form as a key form such that each numeric value block on the key form indicates that associated numeric value blocks on subsequent forms should contain a numeric value and indicates a maximum value for the associated numeric value (col. 8, lines 19-30) and printing the bar code on the other side is simply a design choice without moving away from the purpose of using it.

Regarding claims 14 and 15, DesForges discloses further including a space for designating a mathematical operation to be performed between the numeric value of a numeric value block and the sum of the response receiving spaces where the designated mathematical operation is addition (col. 8, lines 36-42).

Regarding claim 16, DesForges discloses wherein each response row associated with the response control marks of the second set of response control marks contains one response receiving space in a corresponding response column, at least one group of successive response rows being allocated to correspond to selectable responses, and further comprising an end-of-response column parallel to the first longitudinal edge but spaced from both the control mark column and the response column and containing marks are aligned with the last response space associated with each group of response rows (col. 8, lines 45-55).

Regarding claim 17, DesForges discloses a set of mode indicating indicia row aligned with the start-of-form mark and column aligned with at least one of the response columns (col. 8, lines 56-59).

Regarding claim 18, claim 18 has been similarly analyzed and rejected as per claim 1. Further see DesForges (col. 8, lines 60-68 through col. 9, lines 1-32).

Regarding claims 19 and 20, these claims have been similarly analyzed and rejected as per claim 3.

Regarding claim 24, Desforges discloses the scanning apparatus interprets a mark in the numeric value response spaces as a numeric value (col. 9, lines 36-40).

Regarding claim 25, DesForges discloses wherein the scanning apparatus is programmed by a key sheet to interpret the response rows associated with the first set of response control marks as numeric value (col. 9, lines 33-36).

Regarding claims 26 and 27, Desforges discloses wherein the scanning apparatus is programmed to tally responses in the response rows associated with the second set of response control marks, and to mathematically combine the numeric value with the tally results and programmed to mathematically combine the numeric value with the selected responses in the response rows associated with the second set of response control marks (col. 9, lines 37-46).

Regarding claim 28, claim 28 has been similarly analyzed and rejected as per claim 1 since the form itself is paper with the printed matter on it and in order to make the form the matter has to be printed on it.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Manav Seth whose telephone number is (571) 272-7456. The examiner can normally be reached on Monday to Friday from 8:30 am to 5:00 pm.



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta, can be reached on (571) 272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
BHAVESH M. MEHTA  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600

Manav Seth  
Art Unit 2624  
May 21, 2007